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Patent Claims

1. A method for transmission of data packets through a net-
work, where said packets with a maximum allowable delay
5　　(mad), an average packet rate (apr) and an average packet
size (aps) are aggregated in a node of the network to a burst
and the burst is transmitted with an average number of pack-
ets and a link speed (ls) into the network and passes at
least a switch, with a number of channels (noc), a switching
10　　time (ts) and a given burst blocking probability (bbp), where
said average number of packets per burst (ppb) is between an
upper and a lower limit,
where the upper limit is determined by plus/minus twenty per-
cent of the sum of the value one plus a product of the maxi-
15　　mum allowable delay (mad), the average packet rate (apr) and
the value two,
and the lower limit is determined by plus/minus twenty per-
cent of a quotient, where the dividend is the switching time
(ts), and the divisor is a difference, where the minuend is a
20　　quotient of the result of the inverse Erlang B formula for
the burst blocking probability (bbp) and the number of chan-
nels (noc) divided by the average packet rate (apr) and the
subtrahend is a quotient of the average packet size (aps) di-
vided by the link speed (ls).
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2. A method for transmission of data packets through a net-
work, where said packets with a maximum allowable delay (mad)
and an average packet rate (apr) are aggregated in a node of
the network to a burst and the burst is transmitted with a
30　　number of packets, where said number of packets per burst
(ppb) is determined by the result of plus/minus twenty per-
cent of the sum of the value one plus a product of the maxi-
mum allowable delay (mad), the average packet rate (apr) and
the value two.
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3. Method as claimed in claim 1,

where the optimum average number of packets per burst (ppb)
is around plus/minus twenty percent of the value determined
for the upper limit.

5   4. Method as claimed in claim 1, 2 or 3,
     c h a r a c t e r i z e d   i n   t h a t,
     the packets have an average burst size (abs) which is deter-
     mined by the product of an average packet size (aps) of the
     incoming packets and the number of packets per burst (ppb) as
10   determined in claim 1, 2 or 3.

     5. Method as claimed in claims 4,
     c h a r a c t e r i z e d   i n   t h a t,
     during the aggregation of incoming packets to a burst an ef-
15   fective burst size is compared to a value and if the effec-
     tive burst size is equal or exceeds this value the aggregated
     burst is sent and the incoming packets are aggregated to a
     new burst, where said value is in the range between
     plus/minus 20 percent of the average burst size (abs) as de-
20   termined in claim 4.

     6. Method as claimed in claims 4 or 5,
     c h a r a c t e r i z e d   i n   t h a t,
     the incoming packets are aggregated in a buffer to a bursts,
25   where the minimum size of the buffer is determined by the
     product of the average packet size (aps) of the incoming
     packets and the difference of the number of packets per burst
     (ppb) and a first constant (d), which is between 0 and 5,
     where 1 is the preferred value.
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     7. Method as claimed in claim 6,
     c h a r a c t e r i z e d   i n   t h a t,
     the maximum size of the buffer is determined by the product
     of two terms,
35   where the first term is the average packet size (aps)

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and the second term is a sum of the number of packets per
burst (ppb) and a second constant (e), which is between 0 and
5, where 1 is the preferred value.

5   8. Method as claimed in one of claims 1 to 4,
       c h a r a c t e r i z e d   i n   t h a t,
       every time an incoming packet is stored a random binary
       digit, with a probability for the first and the second value
       of the binary digit, is generated and compared with the first
10   value of the binary digit and, if equal, the stored packets
       are sent as a burst, where the probability for the first
       value is determined by the reciprocal value of the number of
       packets per burst (ppb) as determined in claim 1, 2 or 3.

15   9. Method as claimed in one of claims 1 to 8,
       c h a r a c t e r i z e d   i n   t h a t,
       an average burst rate (abr) is determined by the quotient of
       the average packet rate (apr) and the number of packets per
       burst (ppb) as determined in claim 1, 2 or 3.
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       10. Method as claimed in one of claims 1 to 8,
       c h a r a c t e r i z e d   i n   t h a t,
       an average burst rate (abr) is determined by the reciprocal
       value of the sum of the inverse average packet rate (apr) and
25   two times the maximum allowable delay (mad) for a packet.

       11. Method as claimed in claim 9 or 10,
       c h a r a c t e r i z e d   i n   t h a t,
       concerning a switching time (ts), a burst duration time (tb),
30   a limit of the burst blocking probability (bbp) and a given
       number of channels (noc) in a switch of the network the aver-
       age burst rate (abr) satisfies the condition that the quo-
       tient of the result of the inverse Erlang B formula for the
       limit of the burst blocking probability (bbp) and the number
35   of channels (noc) divided by the sum of the switching time
       (ts) and the burst duration time (tb) is equal or greater

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than the average burst rate (abr) as determined in claim 8 or
9.

12. The method as claimed in one of claims 1 to 11,
5   c h a r a c t e r i z e d   i n   t h a t,
IP packets are used as incoming packets.

13. The method as claimed in one of claims 1 to 12,
c h a r a c t e r i z e d   i n   t h a t,
10   the network is formed as an Optical Burst Switched network.

14. The method as claimed in one of claims 1 to 13,
c h a r a c t e r i z e d   i n   t h a t,
the node is an edge node of the network.
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15. The method as claimed in claim 14,
c h a r a c t e r i z e d   i n   t h a t,
in the edge node the burst is transformed and sent as an op-
tical burst into the Optical Burst Switched network.
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